

CHICAGO FORECAST DISTRICT.

During the early part of the month exceptionally warm weather prevailed throughout the greater portion of the district, the September maximum temperature record being broken at many stations. The break in the hot wave of the 7th, 8th, and 9th was successfully forecast, and the work of the Weather Bureau at the time was strongly commended by the Chicago Press.

Warnings were issued well in advance of all frosts of a serious character, September 18th, 19th, 25th, 28th, and 29th. The area covered by the killing frosts on the mornings of the 29th and 30th was closely outlined in the forecasts issued the previous days. It is not known what value these frost warning were, as nearly all crops liable to damage had been harvested.

In the squall of the 24th an unseaworthy steamer, *Cleveland*, was sunk at the entrance to the Chicago Harbor, and the tug *Dorr* sprung a leak and foundered a few miles off south Chicago.

During the 26th a storm developed in the British Northwest, and on the morning of the 27th the center was near Winnipeg. During the succeeding twenty-four hours it moved across the upper Lake region with increasing intensity. Southwest signals were ordered up September 27th at 10 a. m., on Lakes Michigan and Superior, Mackinac section, and Lake Pepin. On the evening of the 27th the signals were extended over Lake Huron. The following morning the signals on Lakes Michigan and Superior were changed to northwest. This was the first severe and general storm of the season in this section, and its movement was marked by high winds at all upper Lake ports. On account of the signal orders and warnings having been issued well in advance of the storm's movement, all vessels had an opportunity to run to shelter in harbor or seek protection under a lee shore.

A long range forecast for Duluth and vicinity for September 12th to 15th, inclusive, was issued at Chicago at 2 p. m., September 11th, in answer to a request from Mr. H. W. Richardson, Local Forecast Official. An excellent opportunity for making a long range forecast presented itself, as the weather map indicated a continuance of settled conditions. That the forecast was of value and much appreciated by the people of Duluth was shown by comments in the Duluth Evening Herald of September 18.—*H. J. Cor, Professor.*

SAN FRANCISCO FORECAST DISTRICT.

The weather has been generally clear over the entire district. Light rains occurred on the coast in northern California on September 4, and thunderstorms occurred in eastern Arizona on September 8. Rain fell on the northern coast of California on September 28, and it is interesting to note that this first rain of the winter type was forecast. The beginning of the month was unusually cold and cloudy in the fruit drying districts of California, and raisin makers felt somewhat anxious for their crops. On September 6, from some studies made at Mount Tamalpais, a forecast of warm weather for forty-eight hours was made in the interest of the raisin makers, and on succeeding dates similar forecasts were issued. These were all verified. The curing season up to date has been very favorable.

The month has been marked by a great frequency of fog along the coast. Here again the conditions on Mount Tamalpais have been used in the practical work of forecasting. It has been noted that when the vertical thermal gradient is one degree rise for every 60 or 80 feet the conditions are favorable for heavy fog in the Bay of San Francisco and

outside the heads. A number of minor accidents occurred to vessels during the month on account of the fog.

On September 22 there was a sudden rise in temperature (19° in twenty minutes) at San Diego. This was the warmest day of the season. It was not forecast. The phenomenon is probably connected with the wind from the desert.

Several times during the month the determination of the conditions at a height of about 4,000 feet above sea level by means of kites, and on three occasions all night records, were obtained.—*Alexander G. McAdie, Forecast Official.*

PORTLAND, OREG., FORECAST DISTRICT.

No wind signals were displayed during the month.

No formal frost warnings were issued during the month, though information was given in the synopsis that frosts were probable in certain sections. Light frosts did occur but no damage was done.

Rain warnings were issued on several dates, and as a rule they were fully verified. Mr. George H. Greer, a large farmer of Dundee, Yamhill County, Oreg., writes under date of September 16, 1899, as follows:

The farmers were eager to learn what your Bureau thought of the weather. Your remarkably accurate and far reaching view was very truly a comfort, especially from Tuesday to Friday (12th to 15th.)

The August rains were unusual and when in September rain began to fall considerable anxiety was caused in the business community as well as among the farmers. The forecasts and synopses were read with more than ordinary interest, and the information issued from this office allayed the fear which prevailed that the fall rains had set in.

Special crop reports were issued during the month in connection with the synopses on the morning maps; evening newspaper reports were given when occasion required. The value of the work of the Bureau to the farmers and to the business people has been demonstrated more clearly during the last two months than ever before.—*B. S. Pague, Forecast Official.*

WEST INDIAN FORECAST DISTRICT.

The month opened with a tropical cyclone southeast of Santiago, Cuba. Advisory information regarding the disturbance, received the evening of August 31, was given wide dissemination. The following message was received from Washington the evening of the 1st:

Storm center 4 p. m. south of and near Santiago, moving west-northwest; slightly increased energy. Vessels sailing from Cuban ports and those west from Santo Domingo and Haiti should take every precaution.

This information was telegraphed to all regular and display stations on the Island of Cuba and to Santo Domingo, and to all newspapers that could be reached.

At 1:44 p. m. of the 2d the following was received from Washington:

Tropical storm near Windward Passage; continued strong northeast winds on Florida and north Cuban coasts for a day or two; high seas.

The following was received from Washington at 9 p. m.:

Storm apparently recurved and central north of Santo Domingo and Haiti, moving northward; little energy. Caution advised vessels sailing in that direction; stations notified.

This information was communicated to all interests.

The Barbados morning report of September 7 showed disturbed conditions to the northeastward of that station. A report from Barbados, timed 12:20 p. m., contained the following:

Barometer irregular; unusual increase in height of sea on east coast.